

SOME
UNCOMMON
OBSERVATIONS
ABOUT
VITIATED
SIGHT.



L O N D O N :

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THe Following Observations were not written, with Intention that they Should be Annex'd to the Foregoing Essay, but to Gratify a Philosophical Physician. Which is the Reason why, besides those things that are more purely Optical, I thought fit to mention Some Others, that might be either Useful or

R Grateful

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Grateful to an Inquisitive Man of his Profession. But having allow'dt he Stationer to Expect, that this Book, tho' it have for Title but an Essay, should not be of too inconsiderable a Bulk; I made choice of these Papers, among Several that lay by me, to increase the Bigness of the Book, Because that, the Eyes being those Parts of the Bodies of Men and other Animals, that I pitch'd upon in the Foregoing Treatise, to Strengthen the Doctrine deliver'd in it about Final Causes;

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Causes; it seem'd Suitable Enough to my Subject and Design, to mention some Uncommon Things that related to Vision or the Organs of it, that We may be invited both to Admire the Wisdom of God, which, to furnish Man with a Sense that requires the Concourse of so very many things, has, if I may so speak, Crowded them into so Small an Engine as an Eye; and to Celebrate his Goodness too, which has been Display'd in that, notwithstanding that the Eye is so very Com-

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pounded a Part, and the
Sight so easily Vitiated yet
the most part of Men by far
do, from their Cradles to
their Graves, enjoy the Be-
nefit and Comfort of so Ne-
cessary and Noble a Sense.

OBSERV.

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OBSERV I.

EXamining a Gentleman, that was already Almost Blind, and fear'd to grow Altogether so, about the Symptoms of his Disease, (which came with a Stroke upon his Head) I found, as I expected, by his Answers, that, tho' he could not any thing well distinguish Objects of Other Colors, Yet he could well perceive those that

that were White, to be of That Colour. Which confirms what I mention in the History of Colours, concerning the great Quantity of Light, that is Reflected by White Objects, in comparison of those that are otherwise Colour'd. And this Observation it Selfth was confirm'd by another Patient, who, tho' almost Blind, could yet discern White Objects.

OBSERV. II.

I Knew a Gentleman that had a Cataract growing, which, when I look'd on his Eye in a lightsom place, appear'd to cover almost just the Upper Part of the Pupil; and tho' He were a Young Vigorous Person, and the Weather was very Clear, he could not well discern Men from Women cross the Street. But this Gentlemans Misfortune came by a great Stroke he received on that Side of his Head, whereof he shew'd me the Scar; which

which Circumstance I therefore Note, because when no Outward Violence has been offer'd to the Eye, it has been observed by a good Oculist, and, if I misremember not, I have Seen an Instance of it, That a small Part of the Pupil, left uncover'd by the Cataract, would serve for more Sight than the Gentleman enjoy'd. In him likewise I had a further Confirmation, of what I was lately Observing about the Conspicuousness of White Objects. For tho' he could not, as I was saying, discern Men and Women that pass'd by, on the other Side of the Street, yet, having once desired him to tell me, if he could distinguish any Object there, he told me that he could; and that I might no longer Doubt of it; when I asked him what he saw, he said that it was a Woman that pass'd by with a White Apron, which Apron he saw directly, and therefore might easily conclude, without distinctly seeing the

Wearer, that the Person that Wore it was a Woman.

O B S E R V. III.

MEeting accidentally with a Man, by Profession a Farrier, whose Eyes look'd very odly, I questioned him about his Distemper; and found by his answers, that he had had Cataracts in both his Eyes, but either had them ill Couch'd, or had not behaved himself orderly afterwards. For there Seemed still to be ragged Films, that cover'd considerable portions of his Pupils; in so much that I somewhat wonder'd to see him go freely about, as he did, without requiring any body to help him, so much as up or down Stairs: and I hereupon asking him, whether he were able to Read in a large Print, he told me he was, with the help of his *Cataract Spectacles*, as they call them, which I doubting of, brought him a Book, whose Title Page he was not able to
Read

Read; this he Excus'd by saying that the place was too Lightsom, which tho' it did not Seem to Others, yet, considering that it was about Noon, I caus'd the Room to be a little darken'd, and then perceived that indeed he could Read well Enough.

O B S E R V. IV.

A Gentleman, having in a quarrel receiv'd a Stroke on one Side of his Head, which knock'd him down, found afterwards a great Weakness and dimness in his Eyes; into which when I look'd attentively, I plainly discern'd, that *tho'* above one half of his Pupil was yet uncover'd, so that when he look'd downwards, he could See well enough with That Eye, yet there was grown in it no less than two Cataracts, which, when I look'd on them attentively, and in a good Light, I could manifestly perceive to be Distinct; the One of them
seeming

seeming to be smooth & spread, as if its Circular Edge adher'd closely to the inside of the Eye; and the Other, that seem'd not altogether of the same Colour, hanging loosely, and as it were a Rag, at some distance above it. What afterwards became of this Gentleman I could not learn, tho' I would gladly have done it; Two Cataracts at a time in one Eye being some what Extraordinary.

O B S E R V. V.

A Learned Gentleman coming once to visit me, with design, as I afterward's perceive'd, to hear my Opinion concerning an odd Disorder he had in his Eyes; I found, by Discoursing with him concerning the *Phænomena* of his Disease, that *tho'* when he look'd on Objects held at hand, he Saw them somewhat Dimly, but yet Single, yet, there were some Objects, particularly Posts and Rails, which when

when he beheld at a certain distance (which was not very great) they appear'd to him both more Dark and Double. I found also that he complained of divers Black Flyes and litle Leaves, that pass'd now and then before his Eyes ; which, *tho'* they do not always fore-bode a True Cataract, since Others and I also have observ'd them to continue many years without being more than a *Bastard Suffusion* (as Physicians Speake) yet in him they were probably Forerunners of a True Cataract ; in regard that I have known it observ'd by a skilful Oculist, that some Persons, before their Cataract, have complain'd that at some Distances they saw Objects almost Double ; so that looking at ones Head, they thought they Saw a great part of a Dark Head a little above it : which Description, whether it proceeded from some Refractions made by the yet not Uniformly Opacous Matter of the Cataract , not having opportunity

tunity to examine those Persons myself, I dare not Venture to say.

OBSERV. VI.

IT may be worth Observing, How long The better sort of Cataracts, tho' they hinder Sight for a time, as a thick Curtain drawn cross the Pupil, yet may remain in the Eye, without Spoiling the Optic Nerve or hindring Vision when once the Cataract is remov'd; Of which I remember, among other Instances, I took notice in the Case of a Woman, who told me she had Cataracts in her Eyes so long, that she was brought a Bed of Six Children consecutively, without being able to See any one of them, till after she was Cur'd by having the Cataracts Couch'd. But then she saw so well; that with Spectacles she could read in a portable Bible of a small Print. And divers considerable Persons of my Acquaintance saw One of Eighteen years Old,
born

born with Cataracts in both her Eyes, Who not naturally Wanting the Faculty of Seeing, tho' thus Hinder'd of the Exercise of it, had been so happily Couched, as afterwards to have the benefit of Sight in them both.

O B S E R V. VII.

IT has been of late the Opinion of very Learned men, that tho Both our Eyes be Open and turn'd towards an Object, yet 'tis but One of them at a time that is effectually Employed in giving us the Representation of it. Which Opinion, in this place where I am writing but Observations, it were not proper to Discuss; especially because what is suppos'd to be Observ'd, will not always Uniformly happen, but may much Vary in particular Persons, according to their several Customs, and the Constitution of their Eyes. For I have, by an Experiment purposely made, several times

times found, that my Two Eyes Together see an Object in another Situation, than Either of them Apart would do. On the other side; I met with a Person, who told me he had a Cataract in his Eye for two Years, without discerning that he had any such Impediment in either of his Eyes; and when I ask'd him, how he knew that, he answer'd me, that others had taken notice of a white Filme that cross'd his Eye, so long before he himself did. But not knowing what a Cataract was, and not finding him to complain of it at all himself, the Thing remain'd unheeded, till the Patient, having one day occasion to Rub his Sound Eye, whilst the Lid cover'd it, was sadly Surpriz'd to find himself altogether in the Dark; and then resorting to an Oculist, was assur'd it was a Cataract, which, a while before I met with him, had been Couch'd. But notwithstanding this Relation, what I had try'd about the Using
of

of Both Eyes, made me ask of a very Ingenious Person, that by an Accident had some months before one of his Eyes struck out, whether he did not observe, that upon the being confin'd to the use of One Eye he was apt to mistake the Situation and Distances of things. To which he answer'd me, that having frequently occasion to pour Distill'd Waters and other Liquors out of one Vial into an other, after this Accident he often Spilt his Liquors, by pouring quite Besides the necks of the Vials he thought he was pouring them directly Into. Afterwards inquiring of a Gentleman that was a Goodfellow, and had by a Wound a while before lost the use of One of his Eyes; he confess'd to me, that divers times pouring the Wine out of one Vessel into another, he would miss the Orifice of the Bottle or Glass that should receive it, and expose himself to the merriment of the Company. A yet more considerable Instance

stance of Such Mistakes, I afterwards had from a Noble Person, who having in a Fight, where he play'd the *Hero*, had one of his Eyes strangely Shot out, by a Musquet-Bullet that came out at his Mouth; answer'd me, that not only he could not well Pour Drink out of one Vessel into another, but had Broken many Glasses; by letting them fall out of His Hand, when he thought he had put them into Anothers, or set them down upon a Table. And he added, that this 'aptnesse to misjudge of Distances and Situations continued with him, tho' not in the same Degree, for little less than Two Years. But on this occasion I shall take notice that, I have often imployed a Dextrous Artificer, whose Right Eye (for in his Left there is nothing more remarkable) is constantly drawn so much a side towards the greater Angle of the Eye, that the Edge of the Pupil does almost touch it and one would think it scarce

scarce possible, but that he should see the Object double with two Eyes that seem so very differinglly turn'd; and yet he answer'd me, that he does not see at all, nor that he finds any Inconvenience, save the Deformity of this Unusual Situation of his Right Eye, which hinders him not from Reading as freely as other Men. This Accident happend to him by an unwary Mistake of Sublimate for another thing; after which, it seems one of the Muscles that mov'd the Eye, remain'd Contracted. But this having happen'd to him, as I found by Inquiry, ever since he was two Years of Age; he could not remember whether he had seen Objects Double, before he was accusom'd to judge of them by the help of his other Senses, and the Information of Others.

OBSERV. VIII.

IT maybe worth while to Observe, that a very great Distention may be made of the Parts of the
 S Eye,

Eye, without Spoiling the Sight ; of which I lately saw an Instance in a Patient of that Ingenious and Experienced Oculist , Dr. *Turberwill*. This was a Gentlewoman about one or two and twenty years of Age, Whose Complexion and Features would have made her Handsom, if she had not had that sort of Eyes, which tho' rarely met with, some call Ox-Eyes ; for Hers were swell'd much beyond the size of Human Eyes, in so much, that she complain'd, they often frightened those that saw Her, and were indeed so Big, that she could not move them to the Right Hand or the Left, but was constrain'd to look strait forward ; or if she would see an Object that lay Aside, she was oblig'd to turn her Whole Head that way. And so she answer'd me she was, when she set herself to Read in a Book, unless she did with her Hand move the Book from one side to another, to bring the ends of the Lines directly

rectly before her Eyes. She told me her Eyes did not always retain the same measure of Tumidness, and that the very day I saw them, they had been in the Morning much more Swell'd than when I look'd upon Her. But that which was more remarkable, was, that not only she could, for all this, See very well and distinctly, and, as I just now intimated, could Read Books, but her Sight had continued good, tho' she had this Distemper these twelve years. And, which is more strange, she answer'd me, that her Visive Power was so little Prejudic'd by this Distemper, when it first came upon her, that she never knew any thing was amiss in her Eyes, till her Friends told her of it, when they found it had continued too long to be a meerly Casual and Transient Tumor. But, tho' this odd Accident did not impair her Sight, it occasion'd great Pains in her Eyes, for which she took Purging and other Medicines,

with so little Success, that both she and her former Physicians, thought her case Desperate; there appearing no way of dislodging a Humour so long settled there. Upon which I propos'd *Salivation*, as the least unlikely way that remain'd, to Resolve and carry off the Peccant Humour. But this, tho' much approv'd by her Doctor, the Modest Patient would by no means consent to.

OBSERV. IX.

I Once look'd into the Eyes of a Gentlewoman, where I could discern nothing that was Amiss, or any thing that was unusual, save the Narrowness of her Pupils, which is often esteem'd a good Sign. And yet this Woman was much troubled with Fumes and Weaknesses of the Head, and had a Disaffection of Sight very Uncommon; for she told me, that, whereas in the Day time her Sight was so Dimm that she could hardly discern

cern her way ; soon after Sun-set, and during the Twilight, she could discern things far better. And in this Condition she had continued a good while : In which odd Case, whether the smallness of her Pupils, which might possibly be Contracted too much by the Day-light, and might be Expanded by the Recess of so much Light ; or the greater Dissipation of the Visive Spirits at one time than at the other, may have any Intrest, I shall not now stay to Enquire. But this Patient brings into my mind the rare Case of a Learned old Divine, who complain'd to me that he was forced to write his Letters and Books by Night, because, during the Day-time, his Right Hand shook so much that he could not manage a Pen, and therefore was forc'd to make use of it only by Candle-light. And I remember that, upon his pressing me to propose some Possible Cause of so odd a *Phenomenon*, I told him, to put him off, that perchance the

few Animal Spirits that he had to Move his Hands with, were so Subtile as to be Dissipated or Exhal'd by the Warmth of the Day, but were kept in by the Coldness of the Night, that somewhat constipated his Pores; and commended to him the use of strengthening things, and, among the rest, of Chocolate; which when for sometime he had continu'd to drink; he came to me, and told me with joy, that he began again to be able to Write in the Day, and so I think he can do yet. But this upon the by.

OBSERV. X.

BEing acquainted with two Ladies of very distant Ages, but very near of Kin, who were both of them troubled with Distempers, that made me guess their Eyes might sometimes be oddly Affected, I Enquired of them, whether they were not troubled with sudden Apparitions of Flame or Fire? to which
one

one of them answer'd me, that oftentimes there would appear to her Multitudes, as she fancied, of Sparks of Fire, that were very unwelcome to her. And the other Lady, that was subject to Convulsive, but not Epileptick, Fits, told me, she divers times saw, as she fancied, such Flashes of Fire as I had mentioned, pass before her Eyes, which at first did not a little Frighten her.

OBSERV. XI.

THe following Observation is odd enough, to give rise to some curious Speculations and Disputes: And therefore I chose to set it down as I found it among my *Adversaria*, tho' I suspect part of it to have been lost, that the Relation may be the more Unbias'd, tho' if I had another opportunity to Discourse with the Patient, I should upon second Thoughts, have ask'd some Questions, and Written down some Circumstan-

ces, that I now wish had not been omitted.

The Gentlewoman I saw to day, seems to be about 18 or twenty years old, and is of a fine Complexion, accompanied with good Features. Looking into her Eyes, which are Gray, I could not discern any thing that was unusual or amiss ; tho' her Eye-lids were somewhat Red, whether from Heat, or which seemed more likely, from her precedent Weeping. During the very little time that the Company allowed me to speak with her, the Questions I propos'd to her were answered to this Effect.

That about five years ago, having been upon a certain Occasion immoderately tormented with Blisters, applied to her Neck and other Parts, she was quit deprived of her sight.

That

That sometime after she began
 to perceive the Light, but nothing
 by the help of it : That then she
 could see a Window, without discerning
 the Panes or the Barrs :
 That afterwards she grew able to
 distinguish the Shapes of Bodies,
 and some of their Colours : And
 that at last she came to be able to
 see the Minuteſt Object ; which
 when I ſeemed to doubt of, and
 preſented her a Book, ſhe not only
 without heſitancy Read in it a line
 or two, (ſot her Eyes are quickly
 weary) but having pointed with
 my Finger at a part of the Margent,
 near which there was the part of a
 very little Speck, that might almoſt
 be covered with the point of a Pin;
 ſhe not only readily enough found
 it out, but ſhewed me at ſome diſ-
 tance off another Speck, that was
 yet more Minute, and required a
 ſharp Sight to Diſcern it. And yet,
 whereas this was done about Noon,
 ſhe told me, that ſhe could ſee
 much better in the Evening, than
 in

in any Lighter time of the day.

While she was looking upon the Printed Paper I shew'd her, I ask'd her whether It did not appear White to her, and the Letters Black? To which she answer'd that they did so; but that she saw as it were a White Glass laid over both the Objects. But the things that were most particular and odd in this womans case, were these two. The first is, that she is not unfrequently troubled with flashes of Lightning, that seem to issue out like Flames about the External Angle of her Eye, which often make her start, and put her into Frights and Melancholy Thoughts. But the other, which is more Strange and Singular, is this, that she can distinguish some Colours, as Black and White, but is not able to distinguish others, especially Red and Green: And when I brought her a Bag of a fine and glossie Red, with Tufts of Sky-colour'd Silk; she
look'd

look'd attentively upon it, but told me, that to her it did not seem Red, but of another Colour, which one would guess by her Description to be a Dark or Dirty one: and the Tufts of Silk that were finely Colour'd, she took in her Hand, and told me they seem'd to be a Light-colour, but could not tell me which; only she compar'd it to the Colour of the Silken Stuff of the Lac'd Pericoat of a Lady that brought her to me; and indeed the Blews were very much alike. And when I ask'd her, whether in the Evenings, when she went abroad to walk in the Fields, which she much delighted to do, the Meadows did not appear to her Cloathed in Green? she told me they did not, but seem'd to be of an odd Darkish Colour; and added, that when she had a mind to gather Violets, tho' she kneel'd in that Place where they grew, she was not able to distinguish them by the Colour from the neighbouring Grass, but only by the
the

the Shape, or by feeling them. And the Lady that was with her, took thence occasion to tell me, that when she looks upon a Turkey Carpet, she cannot distinguish the Colours, unless of those parts that are White or Black. I ask'd the Lady whether she were not troubled with Female Obstructions? To which she Answer'd me, she was not now, but that formerly she had been much subject to them, having been obstinately troubled with the Green-sickness.

OBSERV. XII.

I Shall add on this Occasion something, that, tho' not so odd as It, has yet an Affinity with the newly recited Case, and so may make it the more Credible. And it is, That I lately convers'd with a Mathematician, Eminent for his skill in Opticks, and therefore a very competent Relator of *Phænomena* belonging to that Science? whose Or-
gans

gans of Vision are so constituted, that, *tho'* in his Eyes I could discern nothing Amiss, and *tho'* he makes much and excellent use of them in Astronomical Observations and Optical Experiments; yet he confesses to me, that there are some Colours that he constantly sees Amiss, and particularly Instanc'd in one, which in a clear day, (for so it was when we Discours'd together of this Matter) seem'd to him to be the same with that of a darkish sort of Cloath that he then wore, whil'st to Me and Other Men, it appear'd of a quite differing Colour.

OBSERV. XIII.

Discoursing with a Lady, who had been very long troubled with a very Unusual Indisposition in her Head, and, *tho'* She looks well, is never without Pain in it; *tho'* looking into her Eyes, I perceived nothing Amiss, yet conjecturing that so Obstinate a Distemper must

must have had some Unusual Influence upon her Sight ; I learn'd by Inquiry that after the Violent Fits of Pain and Disorder she had from time to time in her Head, if she did but cast her Eyes, or turn them suddenly, from one side to the other, there would presently ensue a Convulsive Motion in One of them, whereby it would not only be drawn away, but, which was very strange, All White Things, and most other Objects, that she look'd on with that Eye, appear'd Green to her : And yet this was not a Transient Discomposure that would go quickly off, but would Molest her for a good while, and frequently Return'd upon her for a whole year; so that she despair'd of Recovering the use of that Eye, vvherevvith yet she novv sees very vvell, tho' her Cephalick Distempers vv ere rather Mitigated than quite Cur'd. And vvhen I ask'd her, vv whether; vv hilest the Convulsion of her Eye lasted, she did not see Objects Double?

ble? She answer'd, that vvhilest that Distemper vvvas upon her, if she vvvent to Read in a Book, the Letters vvvere so apt to appear Double, that when she vvvas bent upon Reading, she vvvas fain to shut the Distemper'd Eye, and Imploy only the Other.

OBSERV. XIV.

SOME may think that a Man has rather an Excellent, than a Vitiated Sight, who can See Objects with a far less degree of Light than other Men have need of to Discern them. But tho' an Extraordinary Tendernefs may be a kind of Perfection in the Eyes of *Bats* and *Owls*, whose usual Food may be more easily Purchased by Twilight: Yet as to Man, the main part of whose Actions is to be perform'd by the Light of the Day, or some other almost Equivalent; it may Argue the provident goodness of the Author of Nature, to have given Him Eyes Constituted as those of
Men

Men generally are : Since, That a very great Tenderness of the *Retina*, or principal part of the Organ of Sight, would be, if not an Imperfection, at least a great Inconvenience, may appear by the Memorable Story I am going to Relate.

In the Army of the late King of Hapy Memory, (*Charles* the First) there was a Gentleman of great Courage and good Parts, that was Major to one of the Regiments ; who being afterwards by the prevailing Usurpers forc'd to seek his Fortune abroad, ventur'd to do his King a piece of Service at *Madrid*, which was of an Extraordinary Nature and Consequence, and there judg'd very Irregular. Upon this he was committed to an Uncommon Prison, which, tho' otherwise Tolerable enough, had no Window at all belonging to it, but a Hole in the thickness of the Wall, at which the Keeper once or twice a day put in

in liberal provision of Victuals and Wine, and presently Clos'd the Window, if it may be so call'd, on the Out-side, but not perhaps very Solicitously. For some Weeks this poor Gentleman continu'd in the Dark, very Disconsolate. But afterwards he began to think he saw some little Glimmering of Light, which from time to time Increased; insomuch, that he could not only Discover the Parts of his Bed, and other such large Objects, but at length came to Discover things so Minute, that he could Perceive the Mice that frequented his Chamber, to eat the Crumbs of Bread that fell upon the Ground, and Discern their Motions very well. Several other Effects of his Sight in that Dark Place He Related. And that which Confirms that this Proceeded mainly from the great Tenderness the Visive Organ had acquired, by so long a stay in so Obscure a Place, was, that when after some Months, the Face of Affairs Abroad

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being fomewhat Chang'd, His Liberty was reftor'd him, he durft not leave his Prifon Abruptly, for fear of lofing his Sight by the Dazling Light of the Day; and therefore was fain to Accuftom his Eyes by flow degrees to the Light. This Strange, as well as once Famous Story, I the lefs Scruple to fet down in this Place, becaufe I had the Curiofity to learn it from the Gentleman's own Mouth, who acquainted me with other Particulars about it, that, for want of the Notes I then took, I fhall not now venture to fpeak of.

F I N I S.